

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: GOVERNORS LAKE	Lake Area (ha):	21.12
Town: RAYMOND	Maximum depth (m):	3.0
County: Rockingham	Mean depth (m):	1.9
River Basin: Coastal	Volume (m <sup>3</sup> ):	394000
Latitude: 43°03'15" N	Relative depth:	0.6
Longitude: 71°11'15" W	Shore configuration:	1.47
Elevation (ft): 267	Areal water load (m/yr):	6.26
Shore length (m): 2400	Flushing rate (yr <sup>-1</sup> ):	3.40
Watershed area (ha): 275.1	P retention coeff.:	0.62
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

21 February 1990

23 August 1989

DOM. PHYTOPLANKTON (% TOTAL) #1	ASTERIONELLA 25%	CHRYSPHAEERELLA 40%
#2	PERIDINIUM 20%	ANACYSTIS 35%
#3	COELOSPHAERIUM 15%	COELOSPHAERIUM 10%
PHYTOPLANKTON ABUNDANCE (cells/mL)		1755.0
CHLOROPHYLL-A (µg/L)		11.85
DOM. ZOOPLANKTON (% TOTAL) #1	DAPHNIA 49%	NAUPLIUS LARVA 28%
#2	KERATELLA 31%	CYCLOPOID COPEPOD 26%
#3	CALANOID COPEPODS 16%	KERATELLA 18%
ROTIFERS/LITER	44	166
MICROCRUSTACEA/LITER	96	244
ZOOPLANKTON ABUNDANCE (#/L)	140	427
VASCULAR PLANT ABUNDANCE		Common
SECCHI DISK TRANSPARENCY (m)		1.7
BOTTOM DISSOLVED OXYGEN (mg/L)	4.5	8.5
BACTERIA (fecal col., #/100 ml) #1		790
#2		10
#3		

SUMMER THERMAL STRATIFICATION:

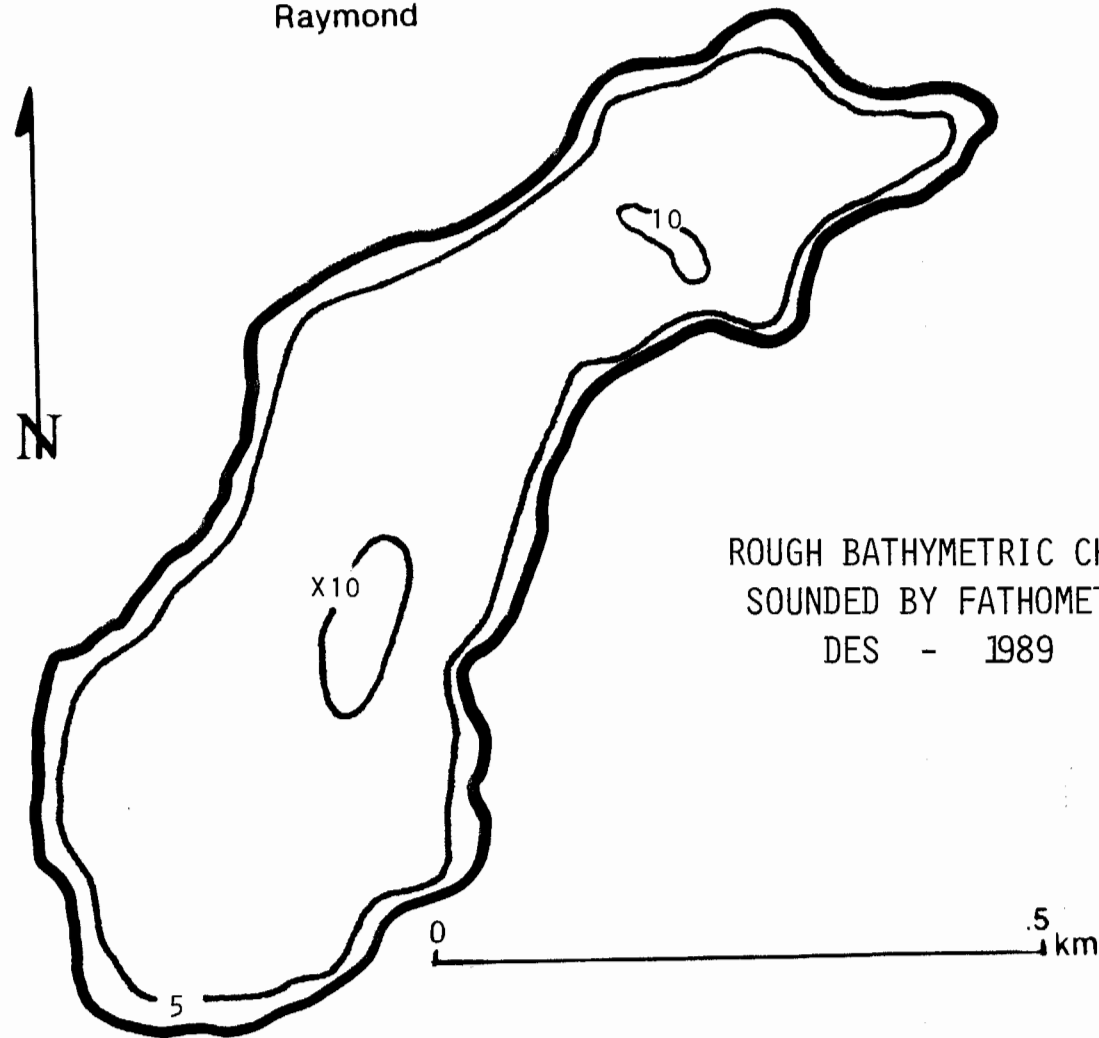
not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>): None

CHEMICAL:		Lake: GOVERNORS LAKE Town: RAYMOND				
	21 February 1990		23 August 1989			
DEPTH (m)	1.0	2.0	1.0		2.0	
pH (units)	5.9	6.1	7.0		6.9	
A.N.C. (Alkalinity)	7.4	10.2	5.9		6.7	
NITRATE NITROGEN	0.10	0.10				
TOTAL KJELDAHL NITROGEN	0.68	0.87				
TOTAL PHOSPHORUS	0.025	0.021	0.028		0.027	
CONDUCTIVITY ( $\mu$ mhos/cm)	70.3	103.6	75.5		77.2	
APPARENT COLOR (cpu)	75	75	68		72	
MAGNESIUM						
CALCIUM						
SODIUM						
POTASSIUM						
CHLORIDE	10	19				
SULFATE	6	5				
TN : TP	31	46				
CALCITE SATURATION INDEX						
All results in mg/L unless indicated otherwise						
TROPHIC CLASSIFICATION: 1989						
	D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
	**	4	3	2	9	Meso.
COMMENTS:						
<ol style="list-style-type: none"> <li>1. Fifteen mallards and one Black duck were observed on the lake.</li> <li>2. Blue-greens (65%) were the dominant class of whole-water phytoplankton. An unidentified gelatinous blue-green colony (45%) and <u>Merismopedia</u> (15%) were the dominant genera.</li> <li>3. The lake was previously surveyed and classified in 1980. There was no change in trophic classification, but the algae level was higher in 1989. One more trophic point and the lake would be rated eutrophic.</li> </ol>						

# Governors Lake

Raymond



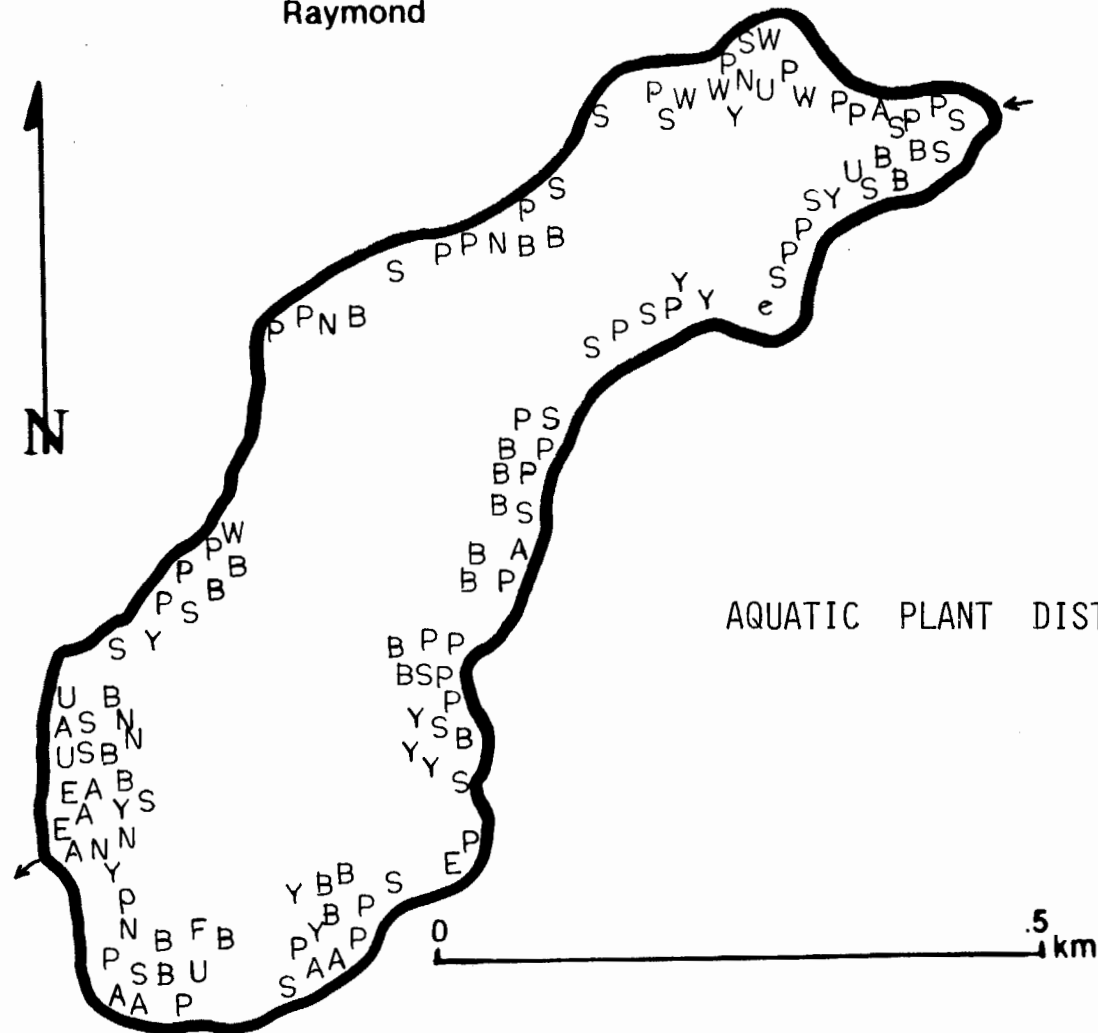
ROUGH BATHYMETRIC CHART  
SOUNDED BY FATHOMETER  
DES - 1989

5 FT. ISOBATHS



# Governors Lake

Raymond



# AQUATIC PLANT SURVEY

LAKE: GOVERNORS LAKE

TOWN: RAYMOND

DATE: 08/23/89

Key	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
P	Pontederia cordata	Pickereelweed	Common/Abun
W	Potamogeton	Pondweed	Scattered
Y	Nuphar	Yellow water lily	Scat/Common
U	Utricularia	Bladderwort	Sparse
A	Peltandra virginica	Arrow arum	Scat/Common
N	Nymphaea	White water lily	Common
B	Brasenia schreberi	Water shield	Common/Abun
b	Scirpus	Bulrush	Sparse
S	Sparganium	Bur reed	Common/Abun
E	Eriocaulon septangulare	Pipewort	Sparse
F	Nymphoides cordatum	Floating heart	Sparse
e	Eleocharis	Spike rush	Sparse
T	Typha	Cattail	Sparse

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS: